National Institute of Environmental Health Sciences

Climate change and aeroallergens in South Africa

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Abstract:

Climate change and its effects on aeroallergens and allergic disease have been extensively studied in the northern hemisphere, but there has been a dearth of similar studies in the southern hemisphere. Aeroallergens are extremely sensitive to certain weather parameters and changes may increase or decrease their levels in the atmosphere. Climate change projections include global warming, an increase in extreme weather events and greater volumes of rain. Alterations in the carbon dioxide levels, mean temperature, relative humidity and wetting of the nine distinct climate zones in South Africa will affect the vegetation distribution, causing shifts which will disturb the balance of their ecosystems. These changes will have a profound effect on aeroallergens such as pollen, fungal spores, house-dust mite and cockroach, each of which have specific climatic requirements. Changes to climatic conditions could extend the pollen season of allergenic plants and increase the concentration of allergenic pollen in the air. Increased relative humidity and temperature could increase the levels of house-dust mites and fungal spores. There is a concerted call by northern hemisphere researchers for greater emphasis on pollen and fungal spore testing in clinical practice and for the standardised collection of aerobiological data worldwide, in order to meet the anticipated changes.

Source: Ask your librarian to help locate this item.

Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Air Pollution, Ecosystem Changes, Meteorological Factors, Precipitation, Temperature, Unspecified Exposure

Air Pollution: Allergens

Temperature: Fluctuations

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Africa

African Region/Country: African Country

Other African Country: South Africa

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Other Health Impact

Other Health Impact: allergic diseases

Resource Type: ☑

format or standard characteristic of resource

Review

Timescale: ☑

time period studied

Time Scale Unspecified